

CHAPTER VIII

SERICULTURE

India continues to be the second largest producer of silk in the world and has the distinction of producing all the four varieties of silk. In 2003-04, production was 15,742 M.T. of this Mulberry accounted for 13,970 M.T. i.e. 88.7%, and non-Mulberry silk 1,772 M.T. comprising Eri 8.6%, Tasar 2.0% and Muga 0.7% of the total production of raw silk. Sericulture provides gainful occupation to more than five million people in the rural and semi-urban areas in India. Of these, a sizeable number of workers belong to the economically weaker sections of society. There is substantial involvement of women in this industry.

Budget

For 2004-05, a provision of Rs. 102.66 crores under Plan and Rs. 60.66 crore under non-plan have been made for Central Silk Board (CSB).

Silk Exports

The silk export earnings during the years 2002-03, 2003-04 & 2004-05 (April to Nov.) are at Table 8.2.

CENTRAL SILK BOARD

The Central Silk Board (CSB) was set up in 1,949 when the Central Government assumed responsibility for the

Table 8.1

Sl. No.	Particulars	2003-04	2004-05 (Anticipated)
I.	Standing Area under Mulberry (Lakh hectares)	1.85	1.85
II.	Production of raw silk (Metric tons)	15,742	17,380
III.	Employment (Lakh people)	56.50	58.00

Table 8.2

(Rs. in crores)				
	Items of Export	2002-03	2003-04*	2004-05* (April -Nov.)
1.	Natural Silk Yarn, fabrics & Made-ups	1,654.96	1,698.66	1,158.28
2.	Readymade Garments	527.20	751.07	503.64
3.	Silk Carpets	96.13	121.63	55.95
4.	Silk waste	15.76	5.16	0.97
	Total	2,294.05	2,576.52	1,716.83

* Provisional figures & subject to change.

Source : Directorate General of Commercial Intelligence & Statistics, Kolkata





Cocoon rearing

development of the silk industry with the Parliament passing the Central Silk Board Act, 1948. Headquartered at Bangalore, and headed by a Chairman and 35 members, the Board works in the three broad areas – Research & Technology Development, Seed Maintenance, and Development of Sericulture & Silk Industry, to support, supplement & facilitate the efforts of the State Governments. It also extends support to States in the form of joint projects and developmental assistance under plan schemes. The Board also undertakes voluntary inspection of exportable silk goods for quality.

Research and Development

The Research & Training Institutes of the CSB provide R&D and Training support for the development of Sericulture. The

Institutes at Mysore (Karnataka), Berhampore (West Bengal) and Pampore (J&K) deal with Mulberry sericulture and the one at Ranchi (Bihar) deals with Tasar. The Institute established at Ladoigarh, Jorhat (Assam) deals with Muga and Eri. Regional Sericultural Research Stations (RSRS/RTRS) for Mulberry and non-Mulberry have been functioning for the dissemination of research findings and tackling the regional field issues of the industry. Besides, a network of Research Extension Centres (REC) for Mulberry and non-Mulberry are also functioning to provide extension support to Sericulturists. In order to provide R&D support in post-cocoon processing the Board has established a Central Silk Technological Research Institute (CSTRI) at Bangalore. In addition, the CSB has also set up a Silkworm Seed Technology Laboratory

(SSTL) in Bangalore (Karnataka), a Central Sericultural Germplasm Resources Centre (CSGRC) at Hosur, (Tamil Nadu) and a Seri-Biotech Research Laboratory (SBRL) at Bangalore.

Research work on the on-farm side is directed at evolving stress tolerant Mulberry varieties, which give high leaf yield; breeding superior silkworm hybrids; and evolving improved techniques of silkworm rearing with integrated control of pests and diseases of both Mulberry and silkworms. During the period 222 research projects were undertaken for implementation and are in various stages of progress – 176 in Mulberry, 42 in non-Mulberry and 4 in post cocoon technology. During 2004-05 (upto Sept., 04), 8 new silkworm hybrids (which includes one double hybrid, two artificial diet hybrids and one sex limited hybrid) and 8 Mulberry varieties evolved by CSB research institutes & State institutes were under authorization trial at all the zones.

Research work on Tasar, Muga and Eri silk is geared towards improvement of productivity potential of non-Mulberry silk in India. Under non-Mulberry sector, several technology trials were conducted during 2004-05 at RTRS/RECs level.

On the post-cocoon sector, web silk reeling machine was developed to produce bulky raw silk from inferior quality cocoons. Fabricated elliptical type denier detecting and mechanical indicating device to multi-end reeling machine to produce quality raw silk. The conveyor cocoon cooking machine developed at CSTRI, which can be used to cook the

cocoons effectively in large scale resulting in increased productivity as well as quality of raw silk.

Seed Maintenance

Under the National Silkworm Seed organization (NSSO), a network of Basic Seed Farms (BSF) produce and supply the basic seed for production of commercial silkworm seed in the seed production centres functioning under CSB and State Departments. 21 Silkworm Seed Production Centres (SSPCs) are functioning under NSSO in different States to support the industry. These commercial SSPCs have produced 208.59 lakh dfls during 2003-04 and 95.40 lakh during the year 2004-05 (Upto Sept., 2004). On the Tasar side, the CSB has established 22 Basic Seed Multiplication & Training Centres (BSM&TC) and one Central Tasar Silkworm Seed Station (CTSSS) for supply of tropical Tasar basic seed & 1 Oak Tasar grainage and 3 REC-cum-BSM&TCs for supply of Oak Tasar basic seed. Under Muga sector, 8 Basic Seed Farms and 1 Silkworm Seed Production Centre are functioning. For production and supply of Eri seed, CSB has established 1 Silkworm Seed Production Centre. In 2004-05 (upto Sept.-2004), 17.67 lakh Tasar basic seed, 0.76 lakh Oak Tasar basic seed, 1.09 lakh Muga basic seed have been produced and supplied to State Departments for further multiplication. The Muga and Eri SSPCs have produced a quantity of 0.75 lakh and 0.02 lakh commercial seeds, respectively during the year 2004-05 (upto September 2004).



Training

The CSB organizes a number of training programmes at its Research and Training Institutes. The total number of people trained during 2003-04 and 2004-05 (upto Sept' 2004) is detailed Table 8.3.

development of the North East Region. Several new projects were started to spread Eri-culture, using existing castor plantations. Eri-culture started in states such as Andhra Pradesh, Punjab, Bihar, Uttranchal, Chattisgarh.

Table 8.3

Sl. No.	Training Courses	2003-04			2004-05(April-Sept.2003)		
		No. of courses conducted	No. Trained	Category of Trainees	No. of courses conducted	No. Trained	Category of Trainees
1	Structured Courses	4	40	DOS/NGO	2	18	DOS/NGO
2	Capsule Courses	25	432	CSB/DOS/ NGO	16	201	CSB/DOS/ NGO
3	Adhoc Courses	-	736	Students/ Staff/ Entrepreneurs	-	740	Students/ Staff/ Entrepreneurs
4.	Summer School Training Programme	2	46	Researchers/ professors from State/ CSB & universities	1	18	Researchers / Professor
	Total		1254			977	

Development Schemes and Programmes

Development Schemes & Programmes supported by the CSB include those which are funded through the CSB's budget; by the Centre or the Centre and the State; those which are externally assisted; and those in which funding has been organized by convergence with rural & other development programmes. The development thrust was concentrated during the year on expansion of non-Mulberry silks & growth of bivoltine Mulberry Sericulture, with a focus on increasing productivities & upgrading the quality of the produce. A thrust was given to

The main schemes are:

1. Centrally Sponsored Schemes

Catalytic Development Scheme (CDP)

The Xth Plan (2002-07) envisages to achieve the targeted production of 26450 M.T of both Mulberry and non-Mulberry silks and generate a cumulative employment of 60.03 lakh people, CDP provides greater thrust to bivoltine Sericulture and a market orientation to non-Mulberry sector. The sub-schemes under CDP are together aimed at development and expansion of host plantations, development of farm infrastructure, upgradation of reeling & processing technologies in silk, enterprise



Muga Worm

development programme and data base development. Of Rs.450.00 crore approved by Govt. of India for implementation of Central Sector Programmes during Xth Five Year Plan, an outlay of Rs.180.98 crore is earmarked for implementation of CDP. Under this scheme cost is shared by the Centre and the States in the ratio of 50:50 except the States of the NE, J&K, Himachal Pradesh, Uttranchal, Jharkhand & Chattisgarh, where the sharing pattern is in the ratio of 90:10.

A sum of Rs. 43.87 crore, Rs. 39.23 crore and Rs. 26.27 crore have been spent/ released by CSB towards implementation of various components under CDP during 2002-03, 2003-04 and 2004-05 (upto Feb., 05) respectively.

Special Package for J&K

The then Prime Minister of India announced a package for the State of Jammu & Kashmir which includes special assistance for development of Sericulture and Silk Industry in J&K during Xth Five Year Plan (2002-07).

The total cost of the above package during Xth Five Year Plan is Rs.13.11 crores. Since J&K State has been considered as a special status State, it is entitled for 90% central assistance from Sericulture schemes of Central Silk Board. Accordingly, the CSB has proposed to provide assistance to the extent of Rs.11.36 crore as Central Assistance and the balance amount of Rs.1.75 crore has to be provided by the State Government. Under the package, Central share of

Rs. 226.25 lakh, Rs. 178.49 lakh and Rs. 129.60 lakh have been released by CSB during 2002-03, 2003-04 and 2004-05 (upto January 2005) respectively.

2. Externally Aided Projects

i) Japan International Cooperative Agency (JICA) Assisted Bivoltine Project

The first phase of JICA assisted Bivoltine Sericulture Technology Development Project (BSTD) was implemented from 1991 to 1997. With the implementation of this project, a comprehensive practical Bivoltine Sericulture Technology suitable to Indian conditions was developed.

The second phase of JICA assistance implemented the Project for Promotion of Popularising the Practical Bivoltine Sericulture Technology (PPPBST) with active participation of Karnataka, Andhra Pradesh and Tamil Nadu from 1997 to 2002. The PPPBST Project activities entailed verification and demonstration of Bivoltine technologies developed in the first phase for the project with selected farmers, training of Indian Sericulture technologists, technicians, field staff and farmers. The performance of these Bivoltine races matched international standards, with average yield over 60-80Kg/100Dfls, a renditta of 5.5 to 6 Kgs and a consistently high quality 2A-4A grade raw silk.

Encouraged by the results, the third phase of the Project on "Strengthening of Extension System for Bivoltine Sericulture" was commenced from August 2002 for a



period of five years with a target to establish suitable extension and seed supply systems for promotion of bivoltine in the selected TSCs in Karnataka, Tamil Nadu and Andhra Pradesh and in CSB. The project proceeded on schedule during the year.

ii) Chhatisgarh Sericulture Project

The Govt. of Chhatisgarh is implementing Chhatisgarh Sericulture Project with financial assistance from Japanese Bank for International Cooperation (JBIC). The project is proposed to be implemented in two phases – the first phase of the project for development of Tasar culture over a period of 7 years and the second phase for development of Mulberry Sericulture over a period of further 5 years proposed to commence from the 6th year of the first phase of the project. Thus the project would be implemented over a period of 10 years at a total cost of Rs. 748.55 crore. The loan agreement for funding the first phase of the project was signed between OECF/JBIC Japan and Govt. of India on 12.12.1997, which is effective from 05.02.1998.



Eri Worm

iii) Manipur Sericulture Project

The Govt. of Manipur is implementing a “Manipur Sericulture Project” with financial assistance from JBIC, Japan. The project is envisaged to be implemented in two phases – the first phase for development of Mulberry sericulture over a period of 7 years and the second phase for development of Eri culture over a period of 5 years proposed to commence after the 5th year of first phase of the project. Thus, the project would be implemented over a period of 10 years at a total cost of Rs. 490.59 crore. The loan agreement for funding the first phase of the project was signed between OECF/JBIC Japan and Govt. of India on 12.12.1997, which is effective from 05.02.1998.

3. Convergence Projects

The CSB has adopted a convergence strategy to leverage funds and organizational capabilities for development in Sericulture. By far the most successful has been the convergence with the programmes of the Ministry of Rural Development for creating sustainable infrastructure & livelihoods for people below poverty line under the Special SGSY projects. The CSB lends its technical support & assistance to the States to draw up viable projects & to implement them, and in certain projects also pitches in with financial support.

Projects are being implemented with SGSY funds for development of all types of silks mainly non-Mulberry silks i.e. Muga, Eri and Tasar in the states of Assam, Arunachal Pradesh, Nagaland,

Mizoram, Bihar and Jharkhand. The projects adopt a soil-to-market approach, and aim to increase host plant development, quality egg production and supply, training & skill Upgradation, technological support in pre-cocoon & post cocoon process as well as market promotion with product design, development, diversification & product planning etc.

During 2004-05, the on-going projects are:

- (i) Special SGSY project for development of Muga silk in Assam;
- (ii) Special SGSY project for development of Eri silk in Assam;
- (iii) Special SGSY project for development of Muga silk in Arunachal Pradesh;
- (iv) Special SGSY project for development of Eri silk in Arunachal Pradesh;
- (v) Special SGSY project for development of Eri silk in Nagaland;
- (vi) Special SGSY project for development of Mulberry Sericulture in Mizoram; and
- (vii) Special SGSY projects for development of Tasar and Eri culture in Bihar and Jharkhand.

A sum of Rs. 78.32 crore including Central funding of Rs. 41.78 crore has been attracted to the Sericulture sector over & above the Xth plan outlays. This is expected to generate 571.36 M.T. of silk

and generate employment of 6,82,573 lakh man years on sustainable basis in sericulture & silk industry.

Expansion of Sericulture in Non-traditional areas

For exploiting the vast potential available for development of Sericulture in the non-traditional areas, CSB launched projects through the State Governments with financial & technical assistance under Catalytic Development Programme as below:

- (i) Project for development of Eri-culture in Andhra Pradesh;
- (ii) Project for development of Oak Tasar in Uttranchal;
- (iii) Project for development of Oak Tasar in Manipur;
- (iv) Introduction of Eri-culture in Punjab;
- (v) R&D project on Eri-culture in Tamil Nadu, Pondicherry and Kerala;
- (vi) Introduction of Eri-culture in Uttar Pradesh;
- (vii) Project for Evaluation of nutritional potentials of Eri silkworm pupae; and
- (viii) R&D project for Utilisation of Eri-pre-pupae/pupae by extraction of oil and surface waxes.

Total cost the projects is Rs. 7.13 crore, which includes Central share of Rs. 3.45 crore. The output is envisaged at 51.95 M.T.



5. Projects for Post Cocoon Technology Induction

CSB continued its emphasis on increase of productivity and quality of silk in the post cocoon sector through upgradation of technology & development and commercialization of low cost user friendly devices for reeling & spinning, cocoon drying etc. which have helped to reduce drudgery and increase efficiency, productivity and quality of produce. CSB also stepped up its financial and technical support for adoption and popularization of these technologies. The main projects included:-

(i) Establishment of Tasar Production-cum-Training Centre

Two Tasar production-cum-training centres are being established in Dhalbhumgarh block of each Singbhum District at a cost of Rs. 9.87 lakh of which CSB assistance is Rs. 2.70 lakh. The centre serves in training poor weavers in advanced technologies to enable them to produce quality Tasar products.

(ii) Vanya Silk Production-cum-Training Centres (PCTCs)

Five Vanya Silks Production-cum-Training Centres(PCTC) are established in the States of Jharkhand, Assam, Uttranchal and Chhattisgarh. The PCTCs would function as field level units of the Product Development Cell of the Central Silk Technological Research Institute (CSTRI), Central Silk Board, Bangalore to introduce new designs, products and technologies in the post cocoon sector in a cost effective manner.

(iii) Vanya Silk Mart

To strengthen the demand pull for Vanya silk products, Central Silk Board has hired 273.30 sft shop area in the Handloom Haveli, Bikaji Cama Place, New Delhi from the National Handloom Development Corporation (NHDC). The responsibility of running the showroom is delegated to a management committee that includes selected NGOs on time-sharing basis similar to the practice followed by "Dilli Haat". The NGOs who were part of the UNDP assisted project would be given priority to showcase and sell the products.

(iv) Vanya Web Sites

Central Silk Board has registered web sites titled 'Vanyasilkmart.com' and 'Vanyasilkgifts.com' aimed at cataloguing the product range of the small unorganized producers of Vanya silks in the Country.



Furnishing articles of Eri Silk

The web sites being developed would in future serve as a window to the wonderful world of Vanya silks and would also provide e-shopping facilities.

Development Projects in NER

The thrust on development of North East Region was continued. Central Silk Board implemented Central and centrally sponsored schemes in the North-Eastern region for development of Sericulture and silk industry in the state with cost sharing by the centre and state in the ratio of 90:10 respectively. Under the Centrally sponsored Catalytic Development Programme of the Xth plan, there is a thrust, inter-alia, on the development of non-Mulberry sector. In 2004-05, an amount of Rs. 26.70 crore (26% of Plan budget) is earmarked for implementation of schemes in North Eastern Region. Besides under the SGSY project of the Ministry of Rural Development also financial assistance is being provided for various Sericulture projects being implemented in the states of Assam, Arunachal Pradesh, Mizoram & Nagaland with CSB's technical assistance. With this convergence strategy, as described above, a substantially higher availability of funds was offered for the sector.

Tribal Sub-Plan

The emphasis on creation of sustainable livelihood in the tribal area adopted to the tribal way of life, was carried forward with

the thrust on non-Mulberry silks. Projects in Chattisgarh, Jharkhand & the NER encourage Sericulture on trees in forests & intercropped with agriculture produce and as a basket of subsistence & income augmenting activities. Implementation encourages group formation to enhance capacities & draws in NGOs to improve extension systems. The CDP has been modified to bring in greater flexibility to better serve the tribal & non traditional requirements. The major programmes being implanted by CSB are towards Research and Development and basic seed supply. Programme for specific target groups are implemented by the States.

INDIAN SILK EXPORT PROMOTION COUNCIL

The Indian Silk Export Promotion Council (ISEPC), Mumbai continues to undertake activities relating to promotion of exports of natural silk goods from India and to act as the registering authority for silk exporters. The Council produces and disseminates information to its members about market developments in the world, changes in the trade policies etc. through its monthly magazine known as the "Silk Net". The silk sample catalogues containing sample swatches of the full range of silks available in India brought out by the Council are available to potential buyer, importing textile agents and Indian Missions abroad.

